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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

P. Hauser
copy

IN THE MATTER OF:

Puerto Rico Sun Oil
P.O.Box 186
Yabucoa, PR 00767

EPA I.D. No. PRD090074071

RESPONDENT.

INITIAL ADMINISTRATIVE ORDER

DOCKET No. II RCRA-91-3008(h)-0301

Proceeding under Section 3008(h),
of the Resource Conservation and
Recovery Act, as amended.

I. Preliminary Statement

1. This Administrative Order ("Order") is being issued to Puerto Rico Sun Oil, Yabucoa, Puerto Rico. ("Respondent") pursuant to the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, codified at 42 U.S.C. § 6901 et seq. ("the Act").

2. Section 3008(h) of the Act, 42 U.S.C. § 6928(h), authorizes the Administrator of the United States Environmental Protection Agency ("EPA") to issue an Order

requiring corrective action, or such other response which he deems necessary to protect human health or the environment, if, on the basis of any information, he determines that there is or has been a release of hazardous waste or hazardous constituents into the environment from a Facility that has been authorized to operate under Section 3005(e) of the Act, 42 U.S.C. § 6925(e). The authority vested in the Administrator has been delegated to the Regional Administrators by EPA Delegation Number 8-31, dated April 16, 1985. This authority has been further delegated by the Regional Administrator of EPA, Region II, to the Director of the Air and Waste Management Division of EPA, Region II, by Region II Delegation Number 8-32, effective July 1, 1987.

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II. Parties Bound

1. This Order, and the responsibilities and obligations it imposes, shall apply to and bind the Respondent, its present and future officers, directors, officials, employees, agents, servants, trustees, receivers, successors, assigns, and all other persons including, but not limited to, firms, corporations, subsidiaries, contractors, independent contractors, subcontractors, or consultants who act for, are owned by, or are in an agency relationship with the Respondent, and who conduct, monitor or perform any work pursuant to or required by this Order.

2. Regardless of Respondent's employ of, or contractual agreement with, any entity named in paragraph 1 of this section, the Respondent remains ultimately liable for failure to carry out, or comply with, any term or condition imposed by this Order.

3. All contractual agreements entered into by Respondent aimed at satisfying its responsibilities or obligations under this Order shall be consistent with the terms and conditions of this Order. In addition, Respondent shall,

within one week of the effective date of this Order and immediately, upon hiring, provide a copy of this Order, and any relevant attachments, to all contractors, subcontractors, laboratories, consultants, or any entity retained to conduct, monitor or perform any work pursuant to this Order.

4. Respondent shall give notice, and a copy, of this Order to any successor in interest prior to any transfer of ownership or operation of the Facility (as defined in Section IV below) and shall notify EPA's designated contact thirty (30) days (the term days means calendar days unless otherwise specified in this Order) prior to any such transfer.

5. No change in the Respondent's corporate form or in the ownership of the "Facility" (as that term is described in Section IV below) shall in any way alter or alleviate Respondent's responsibility and obligation to carry out all the terms and conditions of this Order.

III. Statement of Purpose

1. This Order is being issued to protect human health and the environment from releases of hazardous waste, as defined by Section 1004(5) of the Act, 42 U.S.C. § 6903(5),

40 C.F.R. Part 261.3, and hazardous constituents, as listed in 40 C.F.R. Part 261 Appendix VIII, at or from Respondent's Facility. The Order requires, at a minimum, the performance by Respondent of a RCRA Facility Investigation ("RFI"), to determine fully the nature and extent of any release(s) of hazardous waste and/or hazardous constituents from the Facility into the environment and to gather necessary data to support a Corrective Measures Study, if one is deemed necessary.

2. If, as a result of the RFI, EPA determines that additional work is necessary, the Respondent shall conduct a Corrective Measures Study ("CMS") to develop and evaluate a corrective measure alternative or alternatives and to recommend the final corrective measure or measures.

3. Respondent shall also conduct interim measures in accordance with the terms of this Order.

IV. Findings of Fact

1. Respondent is a company conducting business in the Commonwealth of Puerto Rico.

2. Respondent owns and operates Puerto Rico Sun Oil, a crude oil (petroleum) refinery facility ("the Facility"),

located on Route 103 Km 2.7 Camino Nuevo Ward, two (2) miles east of the town of Yabucoa, Puerto Rico at the intersection of Route 3 and Route 901. The Facility is approximately 252 acres divided into two distinct areas, the "Refinery area" and the "Tank Farm area".

3. Respondent's Facility is located in a predominantly industrial and agricultural area. The Facility is located in a deep valley which is a floodplain. The area is surrounded on three sides by mountains with streams at their bases; the fourth side faces the Caribbean Sea. The residential population in the vicinity of the Facility is 2,150. Agricultural hillside and sugar fields surround the Facility to the north, east and west. Santiago and Lajas Creeks are located 1600 feet to the northeast and the Guayanes River is located 1.4 miles to the northeast. To the south is Road 901, Camino Nuevo and the San Martin areas (residential areas) and the Caribbean Sea. Lucia beach, used by local residents, a power transmission line, a cattle grazing area and a lube oil blending and packing plant named the Hemisphere Oil Company are located within 2000 feet to the southeast of the Facility. To the west are a cattle grazing area and a radio station and 2 miles west of the Facility is the town of Yabucoa.

4. Respondent began using process and waste management units (treatment, storage and land disposal units) in 1971, refining crude oil to produce petroleum products. Respondent processes 85,000 BPD (barrels per day) of virgin crude oil. Major products include: kerosene, light distillates, naphtha, jet fuel, diesel fuel, No. 2 fuel oil, desulfurized gas oil, lube oil base stocks, residual fuels, aromatic extracts, slack wax, and sulfur.

5. At the present time, all domestic and industrial water-supply requirements in the Yabucoa Valley are satisfied by well water. There are approximately 50 wells within a four-mile radius of the Facility. The groundwater obtained from these wells is used predominantly for process and potable water by the Respondent and the Puerto Rico Aqueduct and Sewer Authority (PRASA). The town of Yabucoa uses approximately 0.57 million gallons per day (mgd) which is supplied by three wells owned by PRASA. Others who use the groundwater for drinking purposes are Reynolds Tobacco Company (0.35mgd), Union Carbide (1.3 mgd), Central Roig and livestock wells (0.70 mgd). Groundwater is the sole source of drinking water for the Facility's personnel.

→ + the population. There is no other source of water (drinking) in the area. ?? part
6. Groundwater wells, located in the northwest side of the Facility supply fresh water to the Facility. Five (5)

outside

177 production wells, connected to production or drinking water are located ^{near} at the Facility, which uses approximately 3.0 mgd.

Description of the Facility-wide Hydrogeological Characteristics:

7. Limited information has been collected regarding the detailed characteristics of the underlying geology and groundwater hydrology at the Respondent's site. Information detailing the underlying geologic and hydrologic characteristics at the site comes from thirteen (13) groundwater monitoring wells emplaced in the easternmost portion of the Tank Farm area. No other groundwater wells have been drilled at the facility and, as a result, little information has been ascertained regarding the flow characteristics of the groundwater and the geology underlying the site.

8. Over the course of geologic history within the Yabucoa Valley, stream deposition may have resulted in the deposition of a series of lateral lithofacies which overlie one another which is typical of this type of alluvial/fluvial fan deposit. These lithofacies include: a course grained stream channel deposit, much like "ribbon sands"; a finer grained natural levee deposit caused by the seasonal overflow of water from the stream channel; and clay sized sediments typical of the flood plain deposits. Over the course of geologic history, a vertical succession of these lithofacies has probably resulted. Channel deposits could be overlain by levee deposits which could be overlain by flood plain deposits. These changes in lithologies might occur rapidly or gradually and in an unorganized fashion both in a lateral and vertical direction.

9. The geological conditions at the Facility may restrict the flow of groundwater and/or the migration of contamination. (Little work has however, been done at the site to characterize the geology and the hydrology. As a result, the geology is not well defined and the precise effects it has on the flow of groundwater are relatively unknown.

Because it is somewhat of a deltaic deposit a sequence should be observed.

Why?

Why?

They do have regulated units + to adequately monitor the regulated units must first adequately describe & define the hydrogeology of the site.

10. The only location at the Facility where some data has been obtained is in the area of the Ballast Water Basin and the New Oily Sludge Basin area. Even here the data is limited and as a result it is not known for certain if only one aquifer is being monitored.

what does
it indicate?

Notification and Part A Application

11. By notification dated July 30, 1980, pursuant to Section 3010 of the Act, 42 U.S.C. § 6930, Respondent informed EPA that it conducts storage, treatment and land disposal activities at the Facility involving "hazardous waste" as ^{that} the term is defined in Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), and in 40 C.F.R. § 261.3.

related following
number:

P005
K048
K019
K051
P022
U013
U125
U139
U221
DOC

12. Respondent submitted, to EPA, its Part A Hazardous Waste Permit Application ("Part A Application") on November 18, 1980. In this document, Respondent identified itself as generating, treating, storing and disposing of the following characteristic wastes (defined at 40 C.F.R. § 261.24) and listed hazardous wastes (defined at 40 C.F.R. §§ 261.10, 261.30, 261.31, 261.32 and 261.33) at the Facility:

- ✓ D002- Corrosive waste;
- ✓ K048- DAF Float;

K049- Slop Oil emulsion solids;

K050- Heat Exchanger bundle cleaning sludge;

✓ K051- API Separator sludge;

D007- Chromium

13. The 1980 Part A Application indicated that nine (9) hazardous waste units were present at the Facility.

Located in the Refinery area and the Tank Farm area the identified units were:

- . Land Disposal Units
- . Hazardous Waste Storage Building
- . New Oily Sludge Basin ("NOSB")
- . Ballast Water Basin
- . (2) Cell API Separator
- . (3) Cell API Separator
- . Dissolved Air Flootation Unit
- . Lime Pits
- . "Old" Oily Sludge Basin

14. Upon the timely submission of the Notification and the Part A Application, Respondent received interim status, pursuant to Section 3005(e) of the Act, 42 U.S.C. § 6925 (e), and 40 U.S.C. §§ 270.1(b) and § 270.70(a).

15. On September 25, 1990 the Toxicity Characteristic Leachate Procedure ("TCLP") test became effective.

As the result of the new rule, Respondent submitted a revised Part A Application on September 25, 1990, including D018 (Benzene) and U154 (Methanol) wastes. The Respondent therefore included three surface impoundments from its wastewater treatment system as newly regulated hazardous waste units owing to their managing D018 waste (North and South Aeration Basins and Equalization Basin). These units were included in the revised Part A Application even though the TCLP sampling results were not available at the time. Sampling results subsequently confirmed that the North and South Aeration Basins were handling D018 (Benzene) waste. EPA has not yet received sampling results confirming the presence of D018 in the Equalization Basin.

16. The Respondent listed U154 in its revised Part A Application because of a one time generation of out-dated laboratory commercial chemical products.

17. The Respondent also indicated in its revised Part A Application that the wastes identified in its 1980 Part A Application as D002 and D007, had been tested and the results indicated they were not characteristic wastes. Therefore, it deleted these wastes from the revised Part A Application.

*when
in 1990
were they always
that way?
Are they always
that way now?*

18. On November 2, 1990, EPA promulgated regulations under RCRA which became effective May 2, 1991. 55 Fed. Reg. 46354-46397. Among other things, these regulations added two wastes to the listing of hazardous waste under 40 C.F.R. § 261.31. These wastes, designated F037 and F038, are generated in the separation of oil/water/solids contained in the petroleum refinery process wastewater and oily cooling wastewaters. As a result of the ^{se} new regulations, Respondent has informed EPA that the three newly regulated TCLP surface impoundments are also regulated under the November 2, 1990 regulations.

19. A description of the units contained in the original Part A Application and their present status is provided below:

Landfills??

a. Land Disposal Units

???

Respondent reported that two land disposal areas were used to dispose of insulation material, such as asbestos and spent catalyst waste. One unit is located in the southeast part of the Tank Farm area (Asbestos Disposal area) and the other unit is located in the northeast section of the Refinery area (Spent Catalyst area). The extent of cleanup of the Asbestos Disposal area is unknown. This unit is a non-regulated unit as it has not been used

when was this used in the process
early or late - initial distillation
excluded or
hazardous
??
since 1980. The Spent Catalyst area stored 300 tons of ~~listed~~
spent catalysts and drums of asbestos. The drums
containing asbestos and the spent catalyst were removed in
1980 and the surrounding soil was excavated and disposed of
at a hazardous waste landfill in Texas.

any testing??

b. Hazardous Waste Storage Building

The container storage area is a RCRA regulated unit.
It is located in the northeast section of the Refinery area
~~in the same area~~ ^{near} the "Old" Oily Sludge Basin, ~~was located,~~
~~which was closed in 1978.~~ Presently this unit consists of
a metal frame building underlain by a concrete slab and
surrounded by 6-inch high curbing. The unit was used to
store PCB oil, spent catalyst and non-hazardous crude
heels. It is now used to store plastic bags (for over 90
days) containing hazardous waste (K051) prior to shipment
off-site for disposal. This unit will be addressed by the
EPA Hazardous Waste Facilities Branch.

why this
clause here
it confuses the
issue.

what???

c. New Oily Sludge Basin (NOSB)

The DAF slop oil float (K048) recovered from the Air
Floatation Unit was previously pumped to the "Old" Oily
Sludge Basin until the New Oily Sludge Basin was
constructed in 1978. From 1978 to 1986, the DAF float and

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

FGE NOV
 sent 12/25/82
 This is ex FGE
 common to 5504
 referred to the NOV (4/23/83)

← what deficiencies & how were they dealt with

effect well around the NOSB and Ballast Water Basin.

Groundwater data from this program, dated September 3-5, 1985, indicated the presence of methylene chloride in concentrations above its action level (5 ppb), with a maximum concentration of 27 ppb in well BB-2.

Respondent conducted closure activities of the NOSB and the surrounding area in two phases from 1986-87. Phase I was the removal of all hazardous waste from the NOSB and was conducted during July-August 1986. Phase II was the testing of the concrete liner and soil underlying the NOSB to determine if subsoil contamination was present and was conducted on September 25, 1987. The closure plan was approved by both EPA and EQB on August 19, 1987.

Except for lead which was detected at 0.19 ppm, the results of groundwater sampling conducted as part of the approved NOSB closure plan indicated values below detection and below action levels (levels at and above which trigger the need to determine the scope and extent of contamination), contained in the proposed Subpart S Rule under § 3004(u) of RCRA. 55 Fed. Reg. 30874-30882.

Because of the detection of lead above its MCL value, of 0.05 ppm, the NOSB will be required to obtain a post-closure permit. Since this unit will be addressed under a

why not it can be investigated as well as the other units

post-closure permit, it will not be addressed in this Order.

d. Ballast Water Basin

This surface impoundment was identified as a hazardous waste management unit in the Respondent's 1980 Part A Permit Application.

Not hazardous

On June 18, 1981, Respondent submitted to an outside laboratory two samples of the waste stored in the Ballast Water Basin. Results of the laboratory analysis showed no hazardous characteristic and no EP Toxic constituents above those levels which would classify the waste as hazardous waste (40 C.F.R. § 261.24).

On July 1, 1982, Respondent submitted a letter and the laboratory data to EQB. On August 4, 1989, EQB concluded that the Ballast Water Basin was never a regulated hazardous waste unit. Despite the fact that the unit was not considered regulated, Respondent disposed of the waste in the unit and the unit liner as hazardous waste. EPA considers this unit a Solid Waste Management Unit ("SWMU"). *agree.*

So what if they can dispose of it as abnormally as they desire to ensure that they are in compliance.

As described in the section on the NOSB, Respondent installed a groundwater monitoring system around the NOSB

and Ballast Water Basin in November 1981. Data generated from the groundwater monitoring conducted in 1982 and 1985 is discussed above in the section on the NOSB.

In 1991, a sampling team from the EPA Surveillance Monitoring Branch took samples from the wells surrounding this area. The sample results indicated the presence of Lead, Cadmium, Chromium, Arsenic and Barium, all above action levels.

*all metals
above action
levels (MCLs)*

e. Two (2) Cell and Three (3) Cell API Separators

The 3 Cell API Separator receives stormwater from the Refinery area. The 2 Cell API Separator receives wastewater that contains sludge and oil from the Refinery and the Tank Farm areas. Both units recover oil from secondary material and direct it back to the Refinery area, as such, these units are currently not considered regulated units. The solids accumulated in the separators, when the separators are cleaned are classified as K051 and are handled and disposed of as hazardous waste.

Slurries

*One of these
basins is
for
is one of
system?*

f. Dissolved Air Floatation Unit

This unit is a concrete basin adjacent to the equalization basin. It is part of the oil recovery system

receiving wastewater from the 2 Cell API Separator. EPA inspectors and EPA contractors have observed and photographed this unit discharging oily waste onto the surrounding soil.

See me for report of this unit's status?

g. Lime Pits

These earthen pits receive hot lime blowdown from the lime softener process unit. The date these pits began operation is unknown, however the Respondent indicated in its revised Part A Application that the units are not regulated units, because they never received listed hazardous waste. Respondent based its assessment on tests conducted in 1981 for hazardous waste characteristics and EP toxicity. These tests showed no hazardous waste constituents and no EP toxicity levels above the levels which would classify the waste as hazardous waste. This is expected given the nature of the wastes that are discharged to these pits. EPA considers these units to be SWMUs.

correct based on the 3 characteristics per 12.5.

h. "Old" Oily Sludge Basin

The "Old" Oily Sludge Basin received DAF float (K048) recovered from the Air Flootation unit. It was taken out of service in 1978. There is no information on how the

wastes generated from this unit were disposed of before and after the unit was closed. Presently the Hazardous Waste Storage Building is located on top of where the "Old" Oily Sludge Basin used to be located.

Unit Not Included in Part A Application

20. On August 25, 1985, EPA conducted an inspection in which it determined that the Respondent was illegally operating an Oil Impoundment Basin ("OIB") for the storage of K048. On April 8, 1986, EPA issued a Complaint for the illegal operation of this surface impoundment because the unit was not included in any of the Part A Applications. Additionally, after the Complaint was filed, it was discovered that the basin had been removed from service and the hazardous waste removed without submitting a closure plan. A Consent Agreement/Consent Order was entered into on October 13, 1989, requiring the submission of a closure plan for this unit which included a sampling plan to determine if the unit had been clean closed.

21. On July 23, 1990, Respondent submitted the data collected from its sampling of the soil and shallow groundwater beneath the OIB. Respondent indicated in its submission of the sampling results that it rained the day before the sampling and that after drilling through the

gunite liner of the OIB it found approximately four (4) inches of weathered diorite which was saturated with oil and water. Respondent proceeded to discard this oily water prior to sampling. Copper (.14ppm) and Zinc (.054 ppm) were detected in concentrations below MCLs in the shallow groundwater sample. Chemical analysis of the soil samples indicated the presence of the following priority pollutant volatile organic chemicals (VOCs): methylene chloride (23 ppb), 1,2 dichloroethane (14 ppb), and 1,2 dichloropropane (79 ppb) (antiknock agents found in gasoline product) and acetone (91 ppb) at depths of 5 feet below the underlying clay liner of the OIB. In addition, soil samples indicated the presence of the following priority pollutant semi-volatile organic chemicals (SVOCs): phenanthrene (1500 ppb) and bis(2-ethylhexyl) phthalate (870 ppb) at depths from 2.5 to 3.5 feet.

*Not
health based.*

22. The results of the soil samples also indicated the presence of arsenic, barium, beryllium, cadmium, chromium, copper, lead, nickel and zinc. The highest concentrations found were of chromium (11.5 ppm), lead (14.1 ppm), nickel (15.6 ppm), and barium (218 ppm). These levels are all below EPA action levels for soil.

*where are
the action levels
for soil
found?
state.*

23. EPA believes that the low concentration of VOCs and SVOCs constituents found in the grab sample collected in

the groundwater could have been caused by a dilution factor created by the rain prior to the sampling because the Facility is located in a floodplain area.

Releases of Hazardous Waste/Constituents

Releases of Fuel at the Tank Farm area

24. In February 1987, a fuel spill occurred in the area surrounding the Barge Dock Sump (BDS), a SWMU, located in the Tank Farm area. During a trench excavation around the buried fuel pipes, fuel was detected floating on the water table near the northeast corner of the BDS. Eleven (11) soil borings were drilled to determine the horizontal extent of fuel floating on the water table. These borings indicated that fuel was present in the soil, down to the water table, immediately west of the sump (Boring B-7) and in the area east of the sump (Borings B-8, B-3, B-4, and B-2).

25. Based on the results of the borings, nine (9) monitoring wells ("MWs") were installed by Respondent to detect the impact of the spill on the water table. Three MWs showed measurable thicknesses of fuel floating on the water table.

you're better off not saying anything - just that they are present above action or health based levels.

Who is to say that because of its location in the floodplain that it is diluted. I can't determine that.

report date 3/1/87

what date?

277 If it was measurable why not give data!

26. Based on available data, significant accumulation of fuel in the soil was limited to the area immediately to the west of the Barge Dock Sump, and in a small area around MW-8. The amount of fuel released to the groundwater was estimated at 375 gallons in an area of 5,000 square feet.

if it affected gw it wasn't just superficial

Recheck data?

77? documentation

Feb 1987

did SO sample the soil?

27. Three trenches were excavated and designated as east, west and beach trenches. Fuel recovered from the trenches was bailed out to a tank truck for storage in the BDS. The recovery of the spilled fuel, which was removed from the soil down to the water table by recovery wells, was terminated after the fuel in the recovery wells, trenches and observation wells was reduced to trace amounts. However, Respondent did not sample the groundwater for hazardous waste constituents. Although only trace amounts of fuel were left, the groundwater could have been contaminated with hazardous constituents at or above levels of concern. Because this unit is close to the ocean shoreline, there is concern over the potential impacts the release may have had and may still have on marine life.

cubic feet removed or just surface

Barge Dock Sump

define 77? how long? what per? instructions

is this a finding or is it conjecture?

28. In addition, because the pipe release described in paragraphs 25-28 above went undetected by any detection system, this occurrence raises the question of whether other pipeline discharges have occurred that could be a threat to the environment.

RCRA Facility Assessment

29. EPA hired the services of a contractor to conduct a RCRA Facility Assessment ("RFA") at Respondent's Facility to further assess if releases of hazardous waste/hazardous constituents had occurred at the Facility. A Preliminary Review ("PR") and a Visual Site Inspection ("VSI") was performed on November 15 and 16, 1988.

30. The PR and VSI identified 46 Solid Waste Management Units ("SWMUs") and 4 Areas of Concern ("AOCs"). Two of the SWMUs identified are regulated units (New Oily Sludge Basin and the New Hazardous Waste Storage Building) and three of the SWMUs identified are newly regulated units under the new Toxicity Characteristic regulation of 1990 and the new listing regulations effective May 1991 (North and South Aeration Basins and Equalization Basin). These five regulated units have been discussed previously and will not be further discussed here.

31. The following is a list of the 41 remaining SWMUs and four(4) Areas of Concern identified in the RFA. Twenty-seven (27) of the units are in the Refinery area and fourteen (14) of the units are in the Tank Farm area. The four (4) Areas of Concern are all in the Tank Farm area.

The units which have been previously discussed, are marked with an asterisk.

Refinery Area:

1. Flood Control Surge Pond
- 2.* Lime Pits
3. Final Retention Basin
- 4.* "Old" Oily Sludge Basin
5. Process Sewer system
6. Slop Oil Tank 103
- 7.* Dissolved Air Flootation Unit
8. Sand Drying Beds
9. Dewatering Chamber
10. Mixing Box at the Hazardous Waste Storage Building
11. Waste Disposal Area Behind Hazardous Waste Storage Building
12. Sump in Tug Boat Dock Area
13. Sulfur Pit
14. Slop Oil Tanks W5
15. Slop Oil Tanks W6
16. Sludge Digestor
17. Clarifier
18. Float Oil Basin
19. Asbestos Storage Boxes

- 20. Box Van for Asbestos Storage Boxes
- 21. Non-Hazardous Waste Mixing Box
- 22. DAVCO Unit
- 23. Heat Exchange Bundle Cleaning Area
- 24. Non-Hazardous Waste Disposal Area
- 25.* Spent Catalyst Area
- 26.* 2 Cell API Separator
- 27.* 3 Cell API Separator

Tank Farm area

- 1. West API Separator
- 2. East API Separator
- 3. Tank Farm Fire Water Basin
- 4. Outfall Basin
- 5. Watery Oil Separator
- 6. East Aisle Ditch
- 7. West Aisle Ditch
- 8.* Barge Dock Sump
- 9. Perimeter Ditch
- 10. Main Dock Sump
- 11.* Ballast Water Basin
- 12. Ballast Water Tank W1
- 13. Ballast Water Tank W2
- 14. Asbestos Disposal Area

Areas of Concern

1. AOC #1 - Crude Tanks 003-01
2. AOC #2 - Crude Tanks 003-05
3. AOC #3 - Pitch Tank transfer lines
4. AOC #4 - Fuel Spill near Barge Dock Sump

Soil Sampling from RFA

32. As part of the RFA, a sampling visit was conducted by EPA's contractor on March 16, 1989, and a report presenting findings of the RFA was submitted to EPA on March 30, 1989. Soil samples were collected from eleven (11) SWMUs and two AOCs: Refinery area: Dissolved Air Floatation Unit, Sand Drying Bed, Dewatering Chamber, Mixing Box at the Hazardous Waste Storage Building; Tank Farm area: Main Dock Sump, Barge Dock Sump, Ballast Water Tank W-1, Ballast Water Tank W-2, Watery Oil Separator, Ballast Basin, East Aisle Ditch; AOCs: AOC #2 Crude Tank 003-01 and AOC #3 Pitch Tank transfer lines. Samples indicated the presence of a number of metals as follows: Antimony (250 ppm) at the Sand Drying Bed and Dewatering Chamber; Arsenic (concentrations between 1.3-10.4 ppm) at all SWMUs and AOCs sampled; Barium (concentrations between 71-310 ppm) at all SWMUs and AOCs sampled; Chromium (concentrations between

data?

acet?

45-102 ppm) at four of the sampling locations (Sand Drying Bed, Dewatering Chamber, Mixing Box of Hazardous Waste, and one location beside the Hazardous Waste Storage Building); Mercury (8.6 ppm) at the Sand Drying Bed; Nickel (concentrations between 110-683 ppm) at five of the sampling locations (Sand Drying Bed, Dewatering Chamber, Mixing Box of Hazardous Waste and two locations beside the Hazardous Waste Storage Building). In addition, Vanadium was found at concentrations between 358-1330 ppm at four of the sampling locations (Sand Drying Bed, Dewatering Chamber and two locations beside the Hazardous Waste Storage Building). Unknown semi-volatile hydrocarbons ranging in concentrations from 12-100 ppm were found in the areas near the Water Oil Separator, Main Dock Sump, Barge Dock Sump, Dewatering Chamber, Ballast Water Tanks, and AOC #3.

33. Except for Vanadium, all metals were found at concentrations below action levels, but the concentrations of these metals still indicate that releases have occurred. EPA has no official soil action levels for Vanadium and semi-volatiles. The New Jersey Department of Environmental Protection and Energy (NJDEPE), however, has soil action levels for these constituents, which are as follows:

The EPA's groundwater action level for Vanadium is 0.25 ppm.

ConstituentsNJDEP SoilAction Levels

| | |
|------------------------|---------|
| Vanadium | 100 ppm |
| Semi-volatiles (SVOCs) | 10 ppm |

Groundwater Monitoring Data

lead
chloride

34. As indicated previously, groundwater data collected by the Respondent in 1982 showed concentrations of arsenic and barium above primary drinking water standards, and groundwater data collected by Respondent in 1985 showed concentrations of methylene chloride up to 0.027 ppm, which exceeds the maximum contamination levels (MCLs) of 0.005 ppm.

why is this
being eliminated
Good stuff if it is documented.

35. On or about March 19, 1991, a sampling team from EPA's Surveillance and Monitoring Branch, Edison NJ (ESD-SMB) visited the site and sampled a total of ten (10) monitoring wells, SB-5, SB-4, SB-6, SB-1, SB-7, BB-4, BB-5, BB-3, BB-1 and P-1 around the Ballast Water Basin and NOSB. (It should be noted that wells designated as "SB" are associated with the NOSB while the wells designated as "BB" are associated with the Ballast Water Basin.) The EPA team also sampled one production well (PW-2) in the northeast side of the Refinery area and one production test well outside the premises of Respondent's Facility to the

northeast side of the Refinery area. All samples taken were analyzed for TCLP constituents (metals and organics). Soil from the Sand Drying Bed and the Water Retention Basin in the Refinery area were also sampled. It should be noted that three of the thirteen (13) wells surrounding the Ballast Water Basin and NOSB were unable to be sampled because of bent casings (wells SB-2, SB-3 and BB-2).

36. The groundwater analyses from the samples taken indicated concentrations above MCLs of the following hazardous constituents:

which well? Are these data from one well or several wells? Significant

| | <u>Constituents</u> | <u>MCL (parts per billion)</u> | <u>Maximum Constituents in Groundwater</u> | <u>as per 4/28/82 Gu. rpt.</u> | <u>as per 5/8/82 Gu. rpt.</u> |
|------------------------------------|---------------------|--------------------------------|--|--------------------------------|-------------------------------|
| | | | | | |
| <i>check production well data!</i> | Lead | 50 ppb | 216 ppb | 137 ppb | 110 ppb (60, 70) |
| | Cadmium | 10 ppb | 77 ppb | | |
| | Chromium (+6) | 50 ppb | 90 ppb | 57 ppb | |
| | Arsenic | 50 ppb | 1000 ppb | | 60 ppb |
| | Barium | 1000 ppb | 1560 ppb | 1010 ppb | 13,100 ppb (9,400) |
| | Se | | | | |

as per 1/25/83 rpt.

82 ppb

1100 ppb (1100, 2500, 1100, 14 ppb)

Health Effects

Information on Hazardous Constituents Found in Groundwater

37. Health effects for the hazardous waste constituents that have been found above action levels in the sampling at the facility are presented below:

dermal irritation

Chromium Hexavalent chromium compounds can cause irritant and allergic contact dermatitis, skin ulcers and nasal irritations varying from rhinitis to perforation of the nasal septum. Hexavalent chromium compounds have been said to cause kidney damage in workers where absorption through damaged skin has occurred. EPA's RCRA Facility Investigation Guidance-EPA Document 530/SW-87-001 and the Subpart S rule proposed under § 3004(u) of RCRA indicate that the health based level for human consumption of chromium in drinking water is 50 (ppb). A maximum concentration of 90 ppb was detected in well BB-4.

*totally two different constituents
total Cr
Cr + 3
Cr + 6*

*not as readily absorbed
low much of this is in the environment*

total chromium

what about other routes?

Lead Exposure to lead can have deleterious effects on the kidneys, central nervous system, gastrointestinal (GI) track and blood. EPA's RCRA Facility Investigation Guidance EPA document 530/SW-87-001 and the Subpart S rule proposed under § 3004(u) of RCRA indicate that the health based level for human consumption of lead in the groundwater is 50 ppb. A maximum concentration of 216 ppb was detected in well BB-4.

why not use other health based levels also

Barium Exposure to barium can affect the upper respiratory track creating muscular spasms, and can cause hypoglycemia. It can ^{adversely} affect the central nervous system and the heart by creating the condition extra systole. EPA's RCRA Facility Investigation Guidance-EPA document 530/SW-87-001 and the Subpart S rule proposed under § 3004(u) of RCRA indicate that the health based level for human consumption of barium in drinking water is 1000 ppb. A maximum concentration of 1560 ppb was detected in well SB-4.

*do you know
what this is?*

Arsenic Exposure to arsenic can create ulceration in the nasal septum, skin cancer, peri neur, and gastrointestinal disturbance. EPA's RCRA Facility Investigation Guidance-EPA document 530/SW-87-001 and the Subpart S rule proposed under § 3004(u) of RCRA indicate that the health based level for human consumption in drinking water of arsenic is 50 ppb. A maximum concentration of 1,000 ppb was detected in wells SB-5 and BB-1.

*you're X this out
in findings - is this
present? - where does
SO use this spent solvent?*

Methylene Chloride Exposure to methylene chloride can cause tingling and numbness of limbs, and can affect

*See p 14
P 1*

the respiratory system. EPA's RCRA Facility Investigation Guidance-EPA document 530/SW-87-001 and the Subpart S rule proposed under § 3004 (u) of RCRA indicate that the health based level for human consumption of methylene chloride is 5 ppb per day. In 1985, a maximum concentration of 27 ppb was detected in well BB-2.

Information on Hazardous Constituents Found in the Soil

Vanadium Exposure to vanadium dust can cause bronchitis and can affect the respiratory system. The Soil Action levels established by NJDEPE for human exposure to vanadium in the soil is 100 ppm. A maximum concentration of 1330 ppm was detected in the soil behind the mixing box of the Hazardous Waste Storage Building and the Dewatering Chamber.

Exposure pathways

38. Hazardous waste and/or constituents may migrate from units at the Facility into the environment via the following pathways:

EPA AL
= 0.25 ppm
Total V
Groundwater

a) Groundwater

*was the data analyzed or
was the water?*

tical data from
Based on the analyses of data obtained from

groundwater monitoring wells located at Respondent's

Facility, some metals and VOC's have been released in the
uppermost aquifer and were found in concentrations above
action levels. The metals and the wells in which they ^{are} ~~were~~

identified are: Barium, Chromium, Cadmium and Lead in well
BB-4; Arsenic in wells BB-1 and SB-5; Barium in well SB-4;
and Vanadium in well BB-4. In addition, Methylene Chloride

was found in well BB-2 during a 1985 groundwater sampling.

All the above wells are located in the Tank Farm area
around the Ballast Water Basin and the NOSB. Private off-
site wells, as well as the PRASA wells which supply the
town of Yabucoa its potable water source, are potential
receptors of this contaminated groundwater.

*more
powerful if
present*

*on 1/11/85
firm
Cadmium
lead*

*what's the
story with
Meth. Cl.*

b) Soil:

Soil containing hazardous waste and/or hazardous
constituents is present throughout the Refinery and Tank
Farm areas. Analysis of soil samples collected at eleven
units in both the Tank Farm area and the Refinery indicated
the presence of high peaks of ^{unidentified} ~~unknown~~ semi-volatile
hydrocarbons ranging from 12,000 to 100,000 ppb, well above

*1
2
3
4
5
6
7
8
9
10
11
12*

the NJDEPE total semi-volatile hydrocarbon action level of 10,000 ppb. Given that the location of the water table is less than 10 feet below the ground in a floodplain valley, there may be a potential for migration of these constituents to the groundwater which is used as a drinking water source for the area.

two uncertainties

c) Air:

^{wind}
Data and wind rose maps provided by Respondent in its October 15, 1990 Part B Application showed that the wind blows in a northeast direction toward the Caribbean sea and the recreational area of Lucia Beach, with maximum speeds of 30 miles per hour (mph), or to the northeast direction toward the town of Yabucoa with maximum speeds of 20 mph. The winds may blow near surface contaminant soils. Soil and groundwater contamination needs to be investigated further in order to adequately determine the likelihood of exposure via air migration.

Real Long Sentence

d) Surface Waters and Sediments:

Respondent's facility is surrounded on the north and east side by two surface water bodies. From the north runs Santiago Creek, which after being joined by Lajas Creek, flows between the Tank Farm area and the Refinery area, and

incorrect

words! finally discharges into the Caribbean ^BSea. *Recreation activity* The sea is used as a recreational area at Lucia Beach and fishing is a characteristic activity found in most of the coastal zones around the Island of Puerto Rico. The proximity of these surface water bodies to Respondent's facility and the fact that the facility is located in a floodplain area of the Yabucoa Valley increase the possibility that the migration of contaminants from the facility may affect these water bodies. The fact that the groundwater table is so close to the surface and may discharge to these surface water bodies and finally to the Caribbean sea, increases the potential of migration of groundwater contaminants to these off-site water bodies. In addition, the closeness of Lucia beach and the fishing activities increases the potential threat to human health and the environment. Soil and groundwater contamination needs to be investigated further in order to determine the likelihood of exposure via surface waters and sediments.

V. Determinations and Conclusions of Law

A. EPA Determinations

1. EPA has determined that from 1980 to present Respondent has conducted the following activities:

a. Submitted a Part A Application listing nine (9) units and six (6) hazardous wastes.

b. Conducted groundwater monitoring around two (2) of the units included in the original Part A

*as required
by § 265 regulations*

application (New Oily Sludge Basin and Ballast Water Basin) to determine if these units were releasing hazardous waste and/or hazardous constituents.

this is not particularly true.

c. Conducted closure activities at three surface impoundments, the Ballast Basin, the New Oily Sludge Basin and the Oily Impoundment Basin. (This last basin was never reported in the original Part A Application.)

Float Oil Basin

why then did it conduct closure if it wasn't a regulated unit?

d. Conducted groundwater monitoring around the New Oily Sludge Basin as part of an approved closure plan to determine if this unit was clean closed.

e. Revised its Part A Application identifying four (4) regulated units, the Hazardous Waste Storage Building included in the original Part A Application and three (3) units regulated under the new TC rule (but not for the other eight (8) units listed in the original Part A application

*perhaps mentioning the ~~closure~~ which regulated closure should be mentioned.
As required by approved closure plan? Data?*

Date?

basis?

owing to Respondent's determination that these units were not regulated). In addition, in this revised Part A application, Respondent deleted two (2) of the hazardous wastes included in the original Part A application and added two other hazardous wastes.

Date?

f. Submitted a revised Part B Permit Application for its Hazardous Waste Storage Building. (The Part B Permit Application for the new units regulated under the TC rule was not due until September 25, 1991.)

g. Conducted a clean-up with respect to the underground pipeline spill of fuel oil around the Barge Dock Sump unit and monitored the oil thickness in the water table in the area.

* What about a DOE

2. EPA has determined that there have been releases of hazardous waste and hazardous constituents in to the environment from some of the Solid Waste Management Units (SWMUs) located in the Tank Farm area and Refinery area. This determination is based on the soil and groundwater data gathered by the Respondent's contractor Geraghty and Miller, EPA's RCRA Facility Assessment contractor and EPA's

Description of current conditions -
This should give some preliminary data
2 months *
3 months RFI
workplan.

Edison, NJ Environmental Support Division-Surveillance and
Monitoring Branch (ESD-SMB).

3. EPA has determined that soil sampling available to EPA
indicates releases from the following units at the
facility:

a. Refinery Area:

- 1.***Dewatering Chamber
- 2.** Mixing Box of Hazardous Waste Storage
Building
- 3.** Sand Drying Bed

b. Tank Farm area

- 1.* Barge Dock Sump@
- 2.* Main Dock Sump@
- 3.* Ballast Water Tank TK005 W1
- 4.* Ballast Water Tank TK005 W2
- 5.* Watery Oil Separator
- 6.* Area of Concern #3 Ditch Tank Transfer line

* The soil around these units has shown high levels
of semi-volatiles .

** The soil around these units has shown high levels
of vanadium .

***The soil around this unit has shown high levels of vanadium and semi-volatiles.

4. EPA has determined that the well network located in the Tank Farm area is not sufficient to determine which SWMUS at the Facility are contributing to the releases identified in the groundwater. In the absence of more definitive unit specific data, it is necessary for the Respondent to obtain information to determine the nature and extent of any possible releases from the following units:

a. Refinery Area

1. West API Separator
2. East API Separator
3. Outfall Basin
4. West Aisle Ditch
5. Perimeter Ditch
6. AOC #1
7. AOC #4
8. Dissolved Air Flootation Unit
9. Flood Control Surge Pond
10. Spent Catalyst Area

b. Tank Farm Area

1. Final Retention Basin

First EPA must establish that these are releases. Then it can call for an investigation which will determine the nature & extent of contamination.

Are any of the metals mentioned in Respondent's original or revised Part A. If not mentioned how do we know that they are generated? If not generated how are they released? Substantiation is necessary.

2. Old Oily Sludge Pond
3. Process Sewer System
4. Waste Disposal Area Beside Hazardous Waste Storage Building
5. Float Oil Basin
6. Sump in Tug Boat Area
7. Non Hazardous Waste Disposal Area
8. Slop Oil tank #103
9. Slop Oil Tank W5
10. Slop Oil Tank W6
11. 2 Cell API Separator
12. 3 Cell API Separator
13. Heat Exchange Bundle Cleaning Area
14. Ballast Water Basin
15. AOC # 2

5. EPA has determined that groundwater contamination may have occurred from the fuel spill that occurred in February 1987 in the area surrounding the Barge Dock Sump. As a result, there is a need to identify possible releases of hazardous constituents into the groundwater from the fuel spill that occurred from the underground sewer system.

any other leaks from the Underground Sewer System must be investigated.

6. Certain units do not need to be subject to further investigation, monitoring and remediation under this Order because they have not received hazardous waste or hazardous constituents, have no evidence of releases, or will be addressed under the Part B Permit or Post Closure Permit. These units are:

A. Units With No Evidence of Releases (all in the Refinery Area except for the Tank Farm Fire Water Basin and Second Asbestos Disposal Area):

1. Lime Pits
2. Sulfur Pit
3. Sludge Digestor
4. Clarifier
5. Asbestos Storage Boxes
6. Box Van for Asbestos Storage Boxes
7. Asbestos Disposal Area
8. DAVCO Unit
9. Non Hazardous Waste Mixing Box
10. Second Asbestos Disposal Area
11. Tank Farm Fire Water Basin

*This may not
be the case*

B. Units to be addressed in the Part B Permit:

1. Hazardous Waste Storage Building
2. Equalization Basin
3. North Aeration Basin

4. South Aeration Basin

C. Unit Covered to be addressed under Post-Closure Permit:

1. New Oily Sludge Basin

B. Conclusions of Law

Based on the Findings of Fact set forth above, and the administrative record, the Director of the Division of Air and Waste Management, EPA Region II, has determined as a matter of Law, that:

- ✓ 1. Respondent is a "person" as defined by Section 1004(15) of the Act, 42 U.S.C. § 6905(15).
- ✓ 2. Respondent owns and operates a "facility" in Yabucoa, Puerto Rico that generates, treats, stores and disposes of "hazardous waste".
- ✓ 3. Respondent's facility has been authorized to operate under 40 U.S.C. § 6925(e).
- ✓ 4. There is or has been a release of hazardous wastes and/or hazardous constituents into the environment from the Respondent's facility; and

*Semi-volatiles ✓
methylene
chloride*

5. The actions required to be taken pursuant to this Order are deemed to be necessary to protect human health and/or the environment.

VI. Order: Work To Be Performed

Pursuant to Section 3008(h) of the Act, 42 U.S.C. § 6928(h), the Director of the Air and Waste Management Division, EPA, Region II, hereby issues the following Order to the Respondent. All work undertaken pursuant to this Order shall be performed in a manner consistent with the plans, reports, and schedules approved by EPA. The Respondent shall perform the following, in the manner and by the dates specified below:

1. RCRA Facility Investigation ("RFI")

- a) Respondent shall undertake and complete the RCRA Facility Investigation program ("RFI"), set forth in Attachment I, in accordance with the terms, procedures and schedules approved by EPA. This RFI program shall be implemented in accordance with the Act, its implementing regulations and relevant EPA guidance documents. The RFI program in Attachment I is hereby incorporated by reference as if fully

set forth in this Order. The focus of the RFI program shall, however, be consistent with the EPA determinations in this Order unless EPA indicates otherwise.

- b) The Respondent shall submit an RFI Workplan for EPA approval within sixty (60) days following the issuance of this Order. Following receipt of EPA approval of the RFI Workplan, Respondent shall implement the RFI Workplan according to the schedule approved by EPA. Respondent shall submit the RFI Report to EPA in accordance with an approved schedule to be included in the RFI Workplan. The RCRA Facility Investigation Report shall initially be developed in draft form for EPA review. The RCRA Facility Investigation Report shall be developed in final form within sixty (60) days of receipt of EPA's comments on the draft RFI Report.
- Handwritten notes:*
3 copies of draft
EPA comment shall be adequately addressed within 30 days
3 copies of the draft transmitted to
Upon receiving EPA comments the Respondent shall address these comments and submit 1 copy of a final report.
Upon receipt of approval 5 more copies final RFI Reports to EPA.

2. Schedule

- a) The Respondent shall submit quarterly progress reports to EPA until termination of this Order. The quarterly reports will be due to EPA within forty five (45) days following the end of a

7.
quarter. For the purposes of this Order, quarterly reporting periods are defined as follows:

△ { October 1 to December 31 - First (1st) Quarter

January 1 to March 31 - Second (2nd) Quarter

April 1 to June 30 - Third (3rd) Quarter

July 1 to September 30 - Fourth (4th) Quarter

Unless otherwise agreed to by the EPA Project Coordinator, the quarterly reports must include, at a minimum, the information listed in Task VII B of Attachment I or Task XI A of Attachment II, as appropriate, and the following information:

- 1) A summary of all activities performed pursuant to this Order during the previous quarter.
- 2) A summary of all analytical results that have become available during the previous quarter.
- 3) Supporting QA/QC documentation, in accordance with the approved "Quality Assurance Project Plan", for quarterly analytical results.
- 4) All information recorded in the well records during the previous quarter.

what's the difference

- why each quarter*
→
- 5) Quarterly groundwater elevation data, expressed in both tabulated form and as potentiometric surface contour maps. These maps must include a delineation of the zone of capture, and indicate flow rate and direction.
- from the beginning
you want respondent
to conduct pump tests*
✓
- 6) An evaluation of contaminant migration. This must include maps for all significant contaminants (to be specified in the approved workplan(s) formulated pursuant to this Order and its Attachments) showing concentrations for each of the program monitoring wells.
- why every quarter?*
- ✓ 7) Well maintenance activities, planned or performed.
- plans for each individual well.*
- 8) A summary of plans for installation of additional wells. Existing approved workplans may be referenced.
- ✓ 9) Pumping well rates and volumes, if applicable.
- 7 10) Contaminant recovery levels, if applicable.
- 7 11) Treatment efficiency data, if applicable.

- ✓ 12) A description and discussion of any problems encountered during the previous quarter and the course(s) of action taken to overcome these problems.
- ✓ 13) A summary of the activities planned for the following quarter.
- ✓ 14) An evaluation of the progress of the activities being undertaken pursuant to this Order based on information provided in 1 to 13 of this paragraph.

b) If the Respondent determines that all investigations required under this Order cannot be completed within the specified period, a request for an extension period, not to exceed one hundred and eighty (180) days, must be submitted, in writing, to EPA for approval. This request shall be submitted no later than ninety (90) days prior to the originally scheduled completion date and must be accompanied by a Project Progress Summary Report which describes all of the investigative work completed to date, describes the work which still must be accomplished, details the factors which have prevented adherence to the specified

schedules, and justifies the duration of the specific extension period requested. EPA will notify the Respondent whether the request has been completely or partially approved, disapproved, or requires modification.

- c) Within sixty (60) days following the completion of all investigations required for the RCRA Facility Investigation under this Order, the Respondent shall submit, for EPA review, a Draft RCRA Facility Investigation Report as described in Task VII of Attachment I to this Order.
- d) EPA will notify the Respondent whether the Draft RCRA Facility Investigation Report has been completely or partially approved, disapproved, or modified. Upon EPA disapproval or request for modification, the Respondent shall prepare a RCRA Facility Investigation Final Report. The Final RFI report shall be submitted to EPA no later than sixty (60) days following receipt of EPA's disapproval or request for modification of the Draft RFI Report. If the Draft RCRA Facility Investigation Report is approved by EPA, the Draft Report will serve as the Final Report required by this Order.

Send
3 additional
copies

3. Corrective Measures Study ("CMS")

- a) EPA will review the Final RFI report(s) and notify the Respondent of the need for further investigative actions and/or the need for corrective measures. EPA will establish a schedule for submission of the reports identified in XI B and XI C of Attachment II and for the performance of the other tasks in Attachment II which is incorporated herein by reference.
- b) Upon determination that corrective measures are needed, the Respondent shall submit to EPA, a Corrective Measures Study in accordance with the specifications contained in the Scope of Work included as Attachment II to this Order and in accordance with schedules established by EPA. The Corrective Measures Study must include an evaluation and recommendation of corrective action alternatives using technical, human health and environmental criteria, and media protection standards set by EPA.

4. Scopes of Work

- a) The RCRA Facility Investigation and Corrective Measures Study shall, at a minimum, address the requirements of the Scopes of Work included as Attachments I and II to this Order.
- b) The Respondent shall provide written justification for any omissions or deviations from the minimum requirements of Attachments I and II. Any omissions or deviations are subject to EPA's approval as set forth in Section XI of this Order.
- c) The Respondent may combine units that are adjacent to each other, manage similar wastes, or share the same critical remedial action issue (e.g., ground water contaminated with the same constituents) into groups for the purposes of the investigation.
- d) The Respondent may conduct the RFI and/or the CMS in a phased approach (e.g., conducting soil investigation after groundwater investigation) provided that the entire investigation is completed in accordance with the schedules established pursuant to this Order and Attachments I and II.

e) The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittal may be granted by EPA, pursuant to the modification provision of this Order, based on the Respondent's demonstration that sufficient justification for the extension exists.

f) If any items required by this Order or by the attached Scopes of Work have previously been submitted or completed, it shall be so stated in the RFI Workplan and/or the Draft CMS Report. For these items, the respective Workplan shall include the following information:

- i. A description of the items previously submitted and/or a summary of the previously completed investigations;
- ii. The date(s) of submission and/or completion;
and
- iii. Any known changes or new information developed since the previous submission and/or completion.

- g) EPA will determine the extent to which prior submissions and/or completions satisfy specific items required by this Order and reserves the right to require the resubmittal of any prior submissions.

5. Interim Measures ("IM")

- a) EPA will determine if any interim measures are necessary to alleviate potential threats to human health and the environment caused by contamination. If EPA determines that interim measures are necessary, it will notify Respondent in writing, specifying the basis and reason for EPA's determination and the interim measures deemed necessary. Within twenty (20) days after receipt of any such notice, the Respondent may meet with EPA to discuss the interim measures required by EPA. Within thirty (30) calendar days of receiving notification from EPA that interim measures are required, or by such other date as is approved by EPA, Respondent shall submit to EPA for approval an Interim Measures ("IM") Workplan that identifies the interim measures which will be taken to prevent or mitigate this threat or potential threat to human health and/or the environment which are

consistent with, and can be integrated into, to the extent possible, any long term remediation at the Facility. Thereafter, the Respondent shall perform any such interim measures in accordance with the standards, specifications, and schedules deemed necessary and approved by EPA.

- b) In the event Respondent becomes aware of existing information or identifies new or additional information concerning an actual threat or potential threat to human health or the environment at or near the Facility, Respondent shall immediately notify EPA orally and, within ten (10) calendar days, in writing, summarizing the information on the threat or potential threat to human health or the environment. Within twenty (20) calendar days of notifying EPA, Respondent shall submit to EPA for approval an IM Workplan that identifies the interim measures which will be taken to prevent or mitigate this threat or potential threat to human health and/or the environment which are consistent with, and can be integrated into, to the extent possible, any long term remediation at the Facility.

- c) Any IM Workplan shall be developed in a manner consistent with the Scope of Work and the QA/QC procedures within Attachment I of this Order. The IM Workplan shall document the procedures to be implemented by Respondent.
- d) Any IM Workplan shall include, but not be limited to: 1) "IM" Objectives; 2) a Health and Safety Plan; 3) a Community Relations Plan; 4) a Data Collection Quality Assurance Plan; 5) a Data Management Plan; 6) Design Plans and Specification; 7) an Operation and Maintenance Plan; 8) a Project Schedule; 9) an "IM" Construction Quality Assurance Plan; and 10) Reporting Requirements.
- e) Upon receipt of written approval from EPA, Respondent shall implement any IM Workplan in accordance with the requirements and schedules approved by EPA. IM implementation shall in no way interfere with the implementation or scheduling of the RFI.
- f) Environmental emergency situations may arise which require the Respondent to immediately implement necessary actions to mitigate the emergency. All such emergencies and any situations arising from

such emergencies must be dealt with pursuant to Section XIII of this Order. Any action taken by Respondent in response to such emergencies shall in no way mitigate any other obligation or activity required by this Order.

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VII. Additional Investigative Work

EPA may determine that investigations and studies, in addition to those detailed in this Order and its Attachments, ^{+ the workplans required by the Order} are necessary to protect human health and/or the environment. If EPA determines that any such additional work is necessary it shall notify the Respondent in writing specifying the basis and reason for EPA's determination and the additional work deemed necessary. Within fifteen (15) days after receipt of any such notice, the Respondent shall be afforded an opportunity to meet with EPA to discuss the additional work required by EPA. ^{with 15 Days} Thereafter, the Respondent shall ^{initiate the} perform any such additional work, including the submission of a workplan, in accordance with the standards, specifications, and schedules deemed necessary and approved by EPA. All approved additional work performed by the Respondent pursuant to this paragraph shall be performed subject to, and in a manner consistent with, the terms and conditions

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of this Order. Any requirements for additional work shall be incorporated into this Order as if fully set forth herein.

VIII. Minimum Qualifications for Supervisors

All work performed by the Respondent pursuant to this Order shall be under the direction and supervision of an individual(s) who has demonstrated expertise in hazardous waste site investigations and remediation. Before any work is performed, Respondent shall notify EPA in writing of the name, title, and qualifications of the supervisory personnel and contractors or subcontractors and their personnel to be used in carrying out the terms of this Order. In addition, the Respondent shall ensure that when a necessary license is required, only licensed individuals shall be used to perform any work required by this Order.

IX. Project Coordinator/Information

On or before the effective date of this Order, EPA

and Respondent shall each designate a Project Coordinator ("PC") and the name of at least one alternate who may function in the absence of the designated Project Coordinator. Both Project Coordinators shall be responsible for overseeing the implementation of this Order. The EPA Project Coordinator, will be EPA's designated representative at the Facility.

2. All communications between Respondent and EPA, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed to and through the respective Project Coordinators. In addition, unless otherwise specified, reports, correspondence, approvals, disapprovals, notices, or other submissions relating to or required under this Order shall be in writing and originals or copies shall be sent to:

3 copy: Mr. Philip F. Clappin, Project Coordinator

1 copy: Mr. George C. Meyer, P.E., Chief
Hazardous Waste Compliance Branch
U.S. EPA
26 Federal Plaza - Rm. 1009
New York, N.Y. 10278

1 copy: Ms. Luz Garcia, Project Coordinator
Hazardous Waste Compliance Branch
U.S. EPA
26 Federal Plaza - Rm. 1121
New York, N.Y. 10278

1 copy: Ms. Laura Livingston, Chief
Permits Administration Branch (PAB)
U.S. EPA

26 Federal Plaza
New York, N.Y. 10278

1 copy: Mr. Andrew Bellina, Chief
Hazardous Waste Facilities Branch
U.S. EPA
26 Federal Plaza - Rm. 1043
New York, N.Y. 10278

1 copy: Ms. Flor Del Valle
Director of Soil Contamination Program
Environmental Quality Board
431 Ave. Ponce de Leon
Hato Rey, P.R. 00910

1 copy: CFO Carl Soderberg.

3. Each party shall provide at least five (5) days written notice prior to changing the Project Coordinator(s) and shall immediately provide written notification once a new Project Coordinator is selected.

X. Quality Assurance/Quality Control

1. All sampling, monitoring, analytical, and chain-of-custody plans shall be developed in accordance with the standard and recommended procedures contained in SW-846 - "Test Methods for the Chemical and Physical Analysis of Solid Waste, Third Edition", as amended, and the EPA Region II Quality Assurance Manual. Any deviations from these two documents must be accompanied by an appropriate justification and a demonstration of the effectiveness and applicability of the proposed alternative. Such alternatives must not be used unless approved by EPA.

2. Respondent shall inform the EPA Project Coordinator in advance which laboratories will be used by Respondent and ensure that EPA personnel and EPA authorized representatives have access to the laboratories and personnel performing any analyses. In the event that EPA or its representatives cannot satisfactorily obtain access to the laboratories for any reason for the purposes of auditing protocols and technical proficiency, then EPA shall so inform the Respondent and the Respondent shall, within twenty-five (25) days thereafter, substitute another certified laboratory which provides access in a manner deemed satisfactory to EPA.

3. Respondent shall consult with EPA in planning for field sampling and laboratory analysis, including a description of the chain of custody procedures to be followed.

XI. EPA Approvals

1. Unless otherwise specified, EPA shall review any plan, report, specification or schedule submitted pursuant to, or required by this Order, and provide its written approval, disapproval, comments and/or modifications to the Respondent. Unless otherwise specified by EPA, the Respondent shall submit a revised proposal within thirty (30) days of its receipt of EPA's written comments and/or

modifications. Any such revised proposal submitted by the Respondent shall incorporate EPA's comments and/or modifications. EPA will then approve the revised proposal or modify the proposal and approve it with any such modifications. The revised proposal, as approved by EPA, shall become final. All final approvals shall be given to the Respondent in writing.

2. Unless otherwise specified, within (60) days of EPA's final written approval, the Respondent shall commence the work approved by EPA. Any noncompliance with such EPA approved plan, report, specification, or schedule shall be considered a violation of this Order.

3. Any reports, plans, specifications, or schedules, submitted pursuant to, or required by this Order, are hereby incorporated by reference into this Order ten (10) days following the date written approval of them is given by EPA. Prior to this written approval, no plan, report, specification or schedule shall be construed as finally approved. Verbal advice, suggestions, or comments given by EPA representatives will not constitute an official approval, nor shall any verbal approval or verbal assurance of approval be considered binding.

XII. On-site and Off-site Access

1. Until this Order is terminated pursuant to Section XXI, Respondent shall permit, subject only to the constraints imposed by law, EPA representatives, authorized designees, employees, agents, contractors, subcontractors, or consultants to enter and freely move about the Facility (as described in Section IV of this Order) for, but not limited to, the following purpose(s):

- a) interviewing Facility personnel, contractors (including subcontractors and independent contractors), or any other entity or individual responsible for implementing any aspect or portion of this Order; inspecting records, operating logs, and contracts relating to the Facility and this Order;
- b) inspecting records, operating logs, and contracts relating to the Facility and this Order
- c) conducting sampling, monitoring, or any other such activity which EPA, EQB in consultation with EPA, or the Project Coordinator deems necessary; using a camera, sound recording, video or any other documentary type equipment; or,

d) verifying the reports and data submitted to EPA by the Respondent.

2. The Respondent shall make available to EPA, or any of the persons named in paragraph 1 of this section, for inspection, copying, or photographing, all records, files, photographs, documents, or any other writing, including monitoring and sampling data that pertain to any work undertaken pursuant to this Order.

3. To the extent that work required by this Order must be performed on property not owned or controlled by the Respondent, the Respondent shall use its best efforts to obtain "Site Access Agreements" to perform such work within thirty (30) days of the date Respondent becomes aware or should be aware of need to perform such work. Any such access agreement shall provide for reasonable access by EPA, or any of the persons listed in paragraph 1 of this section. In the event that Site Access Agreements are not obtained within the thirty (30) day period, the Respondent shall notify EPA, in writing, documenting its best efforts to obtain such agreements. Best efforts, as used in this paragraph, shall include, at a minimum:

a) A certified letter from the Respondent to the present owner of such property requesting

permission to allow the Respondent, EPA and any of their authorized representative(s) access to such property; and

b) The property owner's response, if any.

4. Nothing in this section shall be construed to limit or otherwise affect EPA's right of access and entry pursuant to any applicable laws and regulations, including the Act and the Comprehensive Environmental Response Compensation and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. § 9601 et. seq.

5. Nothing in this section shall be construed to limit or otherwise affect the Respondent's liability and obligation to perform corrective action, including corrective action beyond the Facility boundary, notwithstanding the lack of access. EPA may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

XIII. Emergency Provisions

1. In the event the Respondent identifies a current or immediate threat to human health or the environment, the Respondent shall immediately notify EPA orally and notify

EPA in writing within five (5) days summarizing the immediacy and magnitude of the potential threats to human health or the environment. The Respondent shall submit to EPA, within ten (10) days, a plan for approval which mitigates this threat. EPA will approve or modify this plan, and the Respondent shall implement this plan as approved or modified by EPA within ten (10) days. If EPA determines that quicker action is required, then the Director of the Air and Waste Management Division, Region II, may orally authorize Respondent to act prior to making any written submission to EPA. In the case of an extreme emergency, Respondent may act at its own risk.

2. If EPA determines that activities in compliance or non-compliance with this Order, have caused or may cause a release of a hazardous waste or hazardous constituent, or may pose a threat to human health or the environment, EPA may direct Respondent to stop further implementation of this Order, or a portion of this Order, for such period of time as may be needed to abate any such release or threat and/or undertake any action which EPA determines to be necessary.

XIV. Availability of Information/Notification

1. Respondent shall give the EPA Project Coordinator twenty (20) days advance oral notice of the following activities undertaken pursuant to this Order: all well monitoring activities, including, but not limited to, drilling, installation and testing; and all on-site and off-site field activities, such as installation or removal of equipment, or sampling events, geophysical studies, soil gas monitoring, etc.. At the request of EPA, Respondent shall provide or allow EPA or its authorized representatives to take split samples of any or all samples collected by the Respondent pursuant to this Order.

2. All data, information, and records concerning, created for or maintained by the Respondent pursuant to this Order shall be made available to EPA upon request. Respondent shall use its best efforts to insure that all employees of the Respondent and all persons, including contractors and subcontractors who engage in activities under this Order, are made available to and cooperate with EPA if information, whether written or oral, is sought.

3. All information, data, or records submitted to EPA by the Respondent shall be made available to the public, including plans submitted by the Respondent pursuant to Attachment I. Respondent may assert a business confidentiality claim covering all or part of any information

submitted to EPA except analytical data. Any assertion of confidentiality shall be accompanied by response to the points listed at 40 C.F.R. § 2.204(e)(4). Information determined to be confidential by EPA shall be disclosed only to the extent permitted by 40 C.F.R. Part 2.

4. Respondent shall not assert any confidentiality claim with regard to any analytical data.

XV. Record Preservation

1. Respondent shall preserve or make arrangements for the preservation of, during the pendency of this Order and for a minimum of six (6) years after its termination, as specified in Section XXI of this Order, all data, records and documents in its possession or in the possession of its division, officers, directors, employees, agents, consultants, contractors (including subcontractors and independent contractors) or successors and assigns which relate in any way to this Order, to its implementation or to the past and/or current hazardous waste management practices at the Facility. The Respondent shall make such records available to EPA and/or shall provide copies of any documents that EPA requests. Written notification shall be provided to EPA, ninety (90) days prior to the destruction of any or all such documents. Such written notification shall reference the date, caption, and docket number of this Order and shall be addressed to the Regional Administrator of EPA Region II.

2. All documents pertaining to this Order shall be stored in a centralized location to afford ease of access.

XVI. Reservation of Rights

1. EPA expressly reserves, without limitation, all of its statutory and regulatory powers, authorities, rights, remedies and defenses, both legal and equitable, including the right to seek injunctive relief, cost recovery, monetary penalties, or punitive damages.
2. This Order shall not be construed as a covenant not to sue, or as a release, waiver or limitation of any rights, remedies, defenses, powers and or authorities which EPA has under RCRA, CERCLA, or any other statutory, regulatory or common law authority of the United States.
3. This Order shall not limit or otherwise preclude EPA from taking any additional legal action against the Respondent should EPA determine that any such additional legal action is necessary or warranted.
4. This Order shall not relieve the Respondent of its obligation to obtain and comply with any federal, state, county or local permit, nor is this Order intended to be, nor shall it be construed to be, a ruling or determination on, or of, any issue related to any federal, state, county, or local permit.

5. EPA reserves the right to perform any portion of the work required by this Order including, but not limited to, any additional site characterization, feasibility study, interim measure, and/or response or corrective action deemed necessary to protect human health or the environment. EPA may exercise its authority under CERCLA to undertake removal or remedial actions at any time.

6. Notwithstanding compliance with the terms of this Order, Respondent is not released from liability, for the costs of any response actions taken by EPA. EPA reserves the right to seek reimbursement from Respondent for any costs incurred by the United States.

7. If Respondent fails to comply with any terms or any provisions of this Order, EPA reserves the right to commence a subsequent action to require compliance and/or to assess a civil penalty not to exceed \$25,000 for each day of non-compliance and/or to take any other action authorized by law.

XVII. Non-Release of Other Claims and Parties

Nothing in this Order shall constitute, or be construed to constitute, a release from any claim, cause of action or demand in law or equity against any person, firm,

partnership, or corporation for any liability it may have arising out of, or relating in any way to, the generation, storage, treatment, handling, transportation, release, or disposal of any hazardous constituent, hazardous substance, hazardous waste, pollutant, or contaminant found at, taken to, taken from, or emanating from the Facility.

XVIII. Public Participation

Following final written approval of the RCRA Facility Investigation Final Report and the Corrective Measures Final Report, and any summaries of these reports, EPA shall make these documents available for public review and comment.

XIX. Indemnification of the United States Government

To the extent permitted by law, Respondent shall indemnify, save and hold harmless the United States Government, its agencies, departments, agents, and/or employees, from any and all claims or causes of action arising from or on account of acts or omissions of Respondent or its agents, independent contractors, receivers, trustees, subcontractors or successors and/or assigns in carrying out activities required by this Order. This indemnification

shall not be construed as in any way affecting or limiting the rights or obligations of the Respondent or the United States under their various contracts or statutes.

XX. Other Applicable Laws

Respondent shall undertake all actions required by this Order in accordance with the requirements of all applicable local, state and federal laws and regulations. Respondent shall obtain all permits or approvals necessary to perform the work required by this Order.

XXI. Termination and Satisfaction

The provisions of this Order shall be deemed satisfied and the obligations of the Respondent under this Order shall terminate upon Respondent's receipt of a written statement from EPA that Respondent has completed, to EPA's satisfaction, all the terms and conditions of this Order, including any additional work which EPA may determine to be necessary pursuant to this Order. So long as the Respondent is performing work pursuant to, or required by this Order, this Order shall not be deemed terminated or satisfied.

XXII. Survivability/Permit Integration

After the effective date of this Order, a RCRA/HSWA Permit may be issued to the Facility incorporating the requirements of this Order by reference into the permit. Any requirements of this Order shall not terminate upon the issuance of a permit unless the requirement(s) are expressly replaced by equivalent or more stringent requirements in the permit and EPA approves such termination.

XXIII. Modification

1. This Order may be amended by EPA. Such amendments shall be in writing and shall have as their effective date the date on which they are signed by the Director of the Air and Waste Management Division, Region II, EPA.
2. Notwithstanding the above, the EPA Project Coordinator and the Respondent may agree to changes in the scheduling of events. Any such changes must be requested in writing by the Respondent and be approved in writing by the EPA Project Coordinator or designee.
3. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules,

and any other writing submitted by the Respondent will be construed as an amendment or modification to this Order.

XXIV. Final Agency Action

1. Notwithstanding any other provision of this Order, no action or decision by EPA pursuant to this Order, including without limitation, decisions of the Regional Administrator, the Director of the Air and Waste Management Division for Region II, or any authorized representative of EPA, shall constitute final agency action giving rise to any rights of judicial review prior to EPA's initiation of a judicial action for a violation of this Order, including an action for penalties or an action to compel Respondent's compliance with the terms and conditions of this Order.

2. In any action brought by EPA for a violation of this Order, Respondent shall bear the burden of proving that EPA's determinations have been arbitrary and capricious and not in accordance with the law, or this Order.

XXV. Severability

If any provision or authority of this Order or the application of this Order to any party or circumstance is found to be invalid, or is temporarily stayed, the

remainder of this Order shall remain in force and shall not be affected thereby.

XXVI. Force Majeure and Excusable Delay

1. Respondent shall perform all the requirements of this Order within the time limits set forth, approved, or established herein, unless the performance is prevented or delayed solely by events which constitute a force majeure. A force majeure is defined as any event arising from causes not reasonably foreseeable and beyond the control of the Respondent which could not be overcome by due diligence and which delays or prevents performance by a date required by this Order. Such events do not include unanticipated or increased costs of performance, changed economic circumstances, normal precipitation events, or failure to obtain federal, state, or local permits.

2. The Respondent shall notify the EPA Project Coordinator within twenty-four (24) hours after it becomes aware of an event, which it knows or should have known, constitutes a force majeure. Within five (5) days after it becomes aware of events which it knows or should know constitute a force majeure, the Respondent shall submit to EPA a report detailing the estimated length of delay, including necessary demobilization and remobilization, its causes,

measures taken or to be taken to minimize the delay, and an estimated timetable for implementation of these measures. Respondent must adopt all reasonable measures to avoid and minimize the delay. Failure to comply with the notice provision of this section shall constitute a waiver of Respondent's right to assert a force majeure and shall be ground for EPA to deny Respondent an extension of time for performance.

3. If a force majeure has occurred, the time for performance may be extended, upon EPA approval, for a period equal to the delay resulting from such circumstances. This shall be accomplished through the procedures set forth in Section XXIII. Such an extension does not alter the schedule for performance or completion of any other tasks required by this Order unless these are also specifically altered.

XXVII. Effective Date

Pursuant to 40 C.F.R. § 24.02, this Order constitutes an initial administrative Order and shall become a final administrative Order and take effect one hundred twenty (120) days after it is served unless Respondent requests a public hearing with respect to any issue of material fact

or the appropriateness of the proposed corrective action
within the time period specified in 40 C.F.R. § 24.05.

It is so Ordered:

Conrad Simon, Director
Air and Waste Management Division
U.S. Environmental Protection Agency
Region II
New York, New York 10278

Date: _____